

Title: Welcome to Wall \$treet

Brief Overview:

This unit involves collecting, organizing, and displaying data. Students will become familiar with the everyday workings of the stock market enabling them to make decisions and draw conclusions regarding the use of their money in the stock market.

Links to Standards:

- **Mathematics as Problem Solving**

Students will demonstrate their ability to solve problems in mathematics including problems with open-ended answers, problems which are solved in a cooperative atmosphere, and problems which are solved with the use of technology.

- **Mathematics as Communication**

Students will demonstrate their ability to communicate mathematically. They will read, write, and discuss mathematics with language and the signs, symbols, and terms of the discipline.

- **Mathematics as Reasoning**

Students will demonstrate their ability to reason mathematically. They will make conjectures, gather evidence, and build arguments.

- **Mathematical Connections**

Students will demonstrate their ability to connect mathematics topics within the discipline and with other disciplines.

- **Estimation & Computation**

Students will demonstrate their ability to apply estimation strategies in computation, with the use of technology, in measurement, and in problem solving. They will determine reasonableness of solutions.

- **Number Sense & Operations**

Students will demonstrate their ability to describe and apply number relationships using concrete and abstract materials. They will choose appropriate operations and describe effects of operations on numbers.

- **Statistics**

Students will demonstrate their ability to collect, organize, and display data and will interpret information obtained from displays. They will write reports based on statistical information.

- **Fractions & Decimals**

Students will demonstrate and apply concepts of fractions, mixed numbers, and decimals; use models to relate fractions to decimals and to find equivalent fractions; compute with whole numbers, fractions, and decimals; and apply fractions and decimals to problem solving situations.

Grade/Level:

Grades 4-6

Duration/Length:

This unit takes approximately 7 days to complete (the first three and last two class sessions of 45 minutes each; days four and five approximately fifteen minutes each).

Prerequisite Knowledge:

Students should have working knowledge of the following:

- bar graphs, line plots
- place value of fractions and decimals
- converting decimals to/from fractions
- proficiency of basic skills

Objectives:

Students will:

- work cooperatively with partners.
- collect, organize and display data.
- make decisions based on an analysis of data .
- predict the affect of outside influences to changes on the outcome of the stock market.

Materials/Resources/Printed Materials:

- Business section of the newspaper listing individual stock quotations
- Teacher and Student Resources 1-13
- If You Made a Million by David Schwartz
- Texas Instruments Math Explorer Calculator
- Fraction Bars (optional)
- CNN Business Report on cable television (optional)
- The Money Book and Bank by Elaine Wyatt (optional)
- The Stock Market Game by Avalon Hill (optional)
- The Allowance Game by Bonnie Drew (optional)
- 101 Things to Teach Your Child About Money by Bonnie Drew (optional)
- Guide to Understanding Money and Investing by Kenneth M. Morris and Alan M. Siegel, Lightbulb Press, 1993 (optional)
- The Complete Idiot's Guide to Making Money on Wall Street by Christy Heady, Alpha Books, 1994 (optional)

Development/Procedures:**Day 1:**

- Introduce this unit with the book, "If You Made a Million", by David M. Schwartz. Comment on the fact that another way to make a million may be through the Stock Market. Many people have done that very thing.
- Discuss the history of the Stock Market, how it works, and the vocabulary found in Teacher Resources 1 and 2. Allow the students to brainstorm about the definitions--what these words mean to them.
- Explain how to read the stock market quotations in the newspaper. They will only have to pay attention to the last two columns for their worksheets--"close" and "change." See Teacher Resource 3 for more information.

- Select some stocks that are popular or interesting to the students and look them up in the newspaper. Help the students read and understand the abbreviations that are used on the stock exchange and/or the stock ticker abbreviations such as those found on the CNN Headline News stock ticker at the bottom of the screen.
- Select or appoint partners.
- Inform the students that they will each be selecting one stock that they want to follow for a week, filling out the Student Resource 4 each day.

Homework assignment: Assign Student Resource 5, “Vocabulary Search.” Have the students use a dictionary and/or discuss the words at home with someone who may be familiar with them.

Day 2:

- Go over the vocabulary sheets deciding the wording to be used for each definition.
- Have each student fill out the beginning of the “Stock Report” (Student Resource 4). Allow them to work with their partner when checking the newspaper quotations.
- Discuss the graph found with the stock market quotations in the paper showing the Dow Jones Industrial Average over the last several weeks.
- Discuss how news throughout the world can affect the stock market on any individual day or for a period of time. Point out articles in the business section or front page that may show this. Start to collect articles to be posted on the bulletin board that may exemplify news affecting the market.

Homework assignment: Assign Student Resource 6, “What Do You Know About the Stock Market?” Go over, with the children, what they are to do.

Day 3:

- Have each set of partners check the newspaper for their stock and fill out their “Stock Report” for the day.
- Set up a class graph on a wall or bulletin board for the Dow Jones Industrial Average closing price for each day that you are working with the stock market project. You can go back and get the results from previous days. See Teacher Resource 8.
- Instruct the children on setting up an individual graph for their stock that shows its activity for the week. See Student Resource 9.

Homework assignment: Construct their individual stock graph using Student Resource 9.

Day 4:

- Partners will work together to fill out the “Stock Report” and graph for yesterday’s results (Student Resources 4 and 9).

Day 5:

- The same as Day Four.
- Remind the students that Friday’s stock results will be in Saturday’s or Sunday’s newspaper, on television or the Internet. There will be no stock market report in Monday’s paper.

Day 6:

- Have the students complete their stock reports and graphs for the week.
- Complete the class graph for the week.
- Discuss and compare all this information.
- Post the individual stock graphs on the bulletin board for all to see.
- Discuss the Performance Assessment that they will be working on tomorrow in class. You may want to keep the specifics secret so that their parents are not tempted to give too much help.

Homework assignment: Prepare for the Performance Assessment by reviewing the stock results from last week and start to decide what stocks you may want to buy even though you are not sure of how much money you will have to spend.

Day 7:

- Have students complete the Performance Assessment (Student Resource 10).

Performance Assessment:

Students write to persuade using Student Resource 10 as a writing prompt. The scoring rubric found on Teacher Resource 11.

Extension/Follow Up:

On a weekly basis throughout the school year have students continue to collect and analyze stock prices.

Take a field trip to a local brokerage house.

As a review exercise have students complete the Stock Market Word Search.

Invite a broker into the classroom to speak to the students regarding career options. Brokers can be found in the Yellow Pages under “Stock Brokers.”

Travel the Internet to discover sites related to the stock market. i.e.:
<http://www.yahoo.com/recreation/games/gambling/interactive-web-games/stock>
<http://www.yahoo.com/a?s=MSFT&d=+>

Have students collect political/business newspaper clippings which may affect the rise or fall of the stock market.

Invite a newspaper correspondent from the Business Section of the regional paper to speak to students about personal finance.

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Stock History and Inner Workings

What Is the Stock Exchange?

At the center of the United States economy is Wall Street. Almost every large company in the United States and around the world is traded on a Stock Exchange. The stock exchange is a place where stocks and bonds are traded (bought and sold).

How the Stock Exchange Was Created?

The New York Stock Exchange began on a dirt path in front of the Trinity Church approximately two hundred years ago in East Manhattan. At this time no paper money was exchanged but silver was traded for papers stating the owner had a share in the cargo that was coming in on ships anchored in the harbor.

During the American Revolution the early government needed money for the war effort and one way money was collected was by selling bonds. Bonds are pieces of paper one sells for a certain set price. After a period of time the bond could be exchanged for a profit. Also at this time, some of the nation's banks began to sell shares or parts of their companies to people in order to raise money. Those that owned the shares of stock in the company were considered part owners of the company.

In 1792, the New York Stock Exchange began with twenty-four brokers meeting outside under a buttonwood tree and signed the Buttonwood Agreement which marks the official beginning of the New York Stock Exchange.

The American Stock Exchange's roots are intertwined with the New York Stock Exchange (NYSE). The American Stock Exchange (AMEX) which is the second oldest market also met outside on the streets of New York. In the 1900's during the Industrial Revolution, Wall Street boomed and many stocks were not considered good enough for the NYSE. These stock were sold out on the street, which was known as "curb trading" and later as the Curb Market; today this market is known as the (AMEX). As the stock business got busier many people on the street would gather around the brokers, this became very confusing and noisy. Poor weather would also hamper the business of buying and selling. Finally some businesses moved their clerks inside buildings that overlooked the streets where the brokers continued to work. The brokers from the street would yell up to the clerks and visa-versa. Some would communicate back and forth to each other by using hand signals. Some brokers on the street would wear clothing that their clerk could easily identify and distinguish their broker from the others in the crowded street below. In 1921 the entire Curb Market moved inside to the buildings located on Wall Street.

Today's New York Stock Exchange and American Stock Exchange have been joined by the National Association of Securities Dealers Automated Quotation (NASDAQ) and other local, national and international stock exchanges. The buying and selling has evolved into a highly technical business which sends information around the world in a matter of minutes.

How the Stock Market Works ?

Let's say that you have a little extra money saved and you wanted to increase your net worth. You also enjoy visiting restaurants that cater to those who enjoy a fun atmosphere and deliciously prepared food for a reasonable price. You have noticed that every time you visit the restaurant more customers are eating in the dinning room area. In the evening when you drive by the restaurant on your way home you begin to see lines forming outside the restaurant with patrons waiting to get inside! The president of this regional restaurant chain is thinking of expanding his business to other regions of the United States. You could become part-owner of this booming business by purchasing shares of stock in the restaurant and make money.

To purchase stock you will need to call a broker and tell her that you have some money and you would like to buy as much of the restaurant as you can. The stock broker informs you that the price of each share is twenty-five dollars and she will charge you thirty-five dollars for her services. You give the stock broker your money and the shares (stock certificates) you have bought are signed over to you.

What you don't see is your stock broker calling another person, the Floor Broker, who works on the floor of the Stock Exchange. The Floor Broker goes to the section of the Stock Exchange that is selected for your type of stock. The Floor Broker will go to a company which specializes in that particular stock and buy your shares of stock. The buying and or selling of your stock is recorded at the Brokerage House by the broker. You will not be sent stock certificates but your broker will keep a record that you own that stock. If you ever want to sell your shares of your restaurant stock you can call your broker. She will sell the shares and give you your money. Hopefully you will receive more money from the broker than you originally invested!

VOCABULARY SEARCH

STOCK EXCHANGE - A place where stocks and bonds are traded (bought and sold)

INVESTOR - A person who gives money in order to earn a return (profit or loss)

PROFIT - Income; a selling price higher than the buying cost, after expenses

LOSS - An amount by which the cost of an article is more than the selling price

WALL STREET - The main street of the financial district in New York City

BULL MARKET - A market where stock prices are rising

BULLISH - expecting higher stock prices

BEAR MARKET - A Market where stock prices are falling

BEARISH - expecting lower stock prices

STOCK BROKER - The person who can order stocks to be bought or sold, and also offer advice on investing

COMMISSION - The money that a broker gets each time you buy or sell a stock through him or her

ANNUALLY - Yearly; something that happens every year or lasts for a year

CLOSE - The final price of a stock at the end of the day

SHAREHOLDER - A person who buys stock in a corporation and becomes a part-owner

STOCK CERTIFICATE - The actual piece of paper that proves ownership of stock, usually marked to make itself hard to forge

STOCK MARKET - A market for stocks throughout a country

SHARE - Part ownership in a corporation

HIGH - The highest price of the stock during the trading day

LOW - The lowest price of a stock during the trading day

READING THE \$TOCK QUOTATIONS IN THE NEWSPAPER

The whole numbers in the column “close” represent the dollar amount. The fractions are changed into money as follows:

$$1/16 = 6 \frac{1}{4} \text{ ¢ or } 6.25\text{¢} \quad 1/8 = 12 \frac{1}{2} \text{ ¢ or } 12.5\text{¢} \quad 1/4 = 25\text{¢}$$

$$3/16 = 18 \frac{3}{4} \text{ ¢ or } 18.75\text{¢} \quad 3/8 = 37 \frac{1}{2} \text{ ¢ or } 37.5\text{¢} \quad 1/2 = 50\text{¢}$$

$$5/16 = 31 \frac{1}{4} \text{ ¢ or } 31.25\text{¢} \quad 5/8 = 62 \frac{1}{2} \text{ ¢ or } 62.5\text{¢} \quad 3/4 = 75\text{¢}$$

$$7/16 = 43 \frac{3}{4} \text{ ¢ or } 43.75\text{¢} \quad 7/8 = 87 \frac{1}{2} \text{ ¢ or } 87.5\text{¢}$$

$$9/16 = 56 \frac{1}{4} \text{ ¢ or } 56.25\text{¢}$$

$$11/16 = 68 \frac{3}{4} \text{ ¢ or } 68.75\text{¢}$$

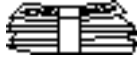
$$13/16 = 81 \frac{1}{4} \text{ ¢ or } 81.25\text{¢}$$

$$15/16 = 93 \frac{3}{4} \text{ ¢ or } 93.75\text{¢}$$

In the stock market, $1/16$ is equal to $6 \frac{1}{4}\text{¢}$. A stock with 48 $5/16$ in the close column would be selling for \$48.3125 per share. Do not round off decimals. The children will either have to be familiar with these values or change the fraction to a decimal on their calculators each time.

The amount of change is represented in the paper with a plus (+) or minus (-) sign and a fraction or mixed number with the same values as described above.

Stock Report



Stock Market
Student Resource 4

Stock Name _____

Purchase Price (fraction and decimal) _____

I purchased this stock because _____

Day & Date	Price Recorded in Newspaper ("Last")	Price Converted into Dollars & Cents	Change (Amount & Direction)

Last price from the week- Friday's Close _____

Amount of overall change during the week _____
(Purchase price ---> Friday's Close)

Amount of money earned or lost _____

My thoughts on the activity of my stock for the week:

VOCABULARY SEARCH

Stock Exchange_____

Investor_____

Profit_____

Loss_____

Wall Street_____

Bull Market_____

Bear Market_____

Stockbroker_____

Commission_____

Annually_____

Close_____

Shareholder_____

Stock Market
Student Resource 5 (cont)

Stock Certificate_____

Stock Market_____

Share_____

High_____

Low_____

Bullish _____

Bearish _____

WHAT DO YOU KNOW ABOUT THE \$TOCK MARKET ?

FIND THE VOCABULARY WORD THAT MATCHES EACH DEFINITION.
HINT: THE LINES REPRESENT EACH LETTER IN THE ANSWER.

- | | |
|--|-----------------|
| 1. A market where stock prices are rising | — — — — |
| 2. Something that happens every year; yearly | — — — — — — — — |
| 3. The amount by which the cost of an article is more than the selling price | — — — — |
| 4. The main street of the New York City financial district | — — — — |
| 5. The final stock price of the day | — — — — — |
| 6. Expecting higher stock prices | — — — — — — — |
| 7. Part ownership in a corporation | — — — — — |
| 8. Income | — — — — — — — |
| 9. The highest price of a stock during the trading day | — — — — |

DISCOVER THE BEST ADVICE YOU CAN GET ABOUT THE
\$TOCK MARKET !

FRACTURED FRACTIONS: Use the following clues and your answers from above to fill in the blank lines below.

1. Use the first half of answer #1.
2. Use the last $\frac{1}{8}$ of answer #2.
3. Use the first $\frac{2}{4}$ of answer #3.
4. Use the first fourth of answer #4.
5. Use the last $\frac{2}{5}$ of answer #5.
6. Use the third $\frac{1}{7}$ and the fourth $\frac{1}{7}$ of answer #6.
7. Use the second $\frac{1}{5}$ of answer #7.
8. Use the fifth $\frac{1}{6}$ of answer #8.
9. Use the last $\frac{1}{2}$ of answer #9.

BEST ADVICE: _____, _____.

ANSWERS FOR STUDENT RESOURCE 6

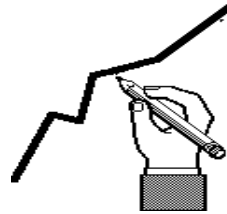
1. BULL
2. ANNUALLY
3. LOSS
4. WALL
5. CLOSE
6. BULLISH
7. SHARE
8. PROFIT
9. HIGH

BEST ADVICE: BUY LOW, SELL HIGH

Dow Jones Industrial Stock Averages

Name _____

Stock Name _____



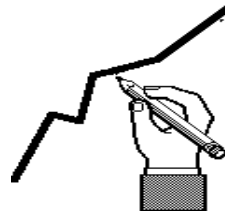
Stock Market
Teacher Resource 8

TITLE

Individual Stock Data

Name _____

Stock Name _____



Stock Market
Student Resource 9

TITLE

Name _____

Performance Assessment

Recently, you have learned about a few ways people save, invest and make money. As you are aware one way to make money is to invest in the stock market by purchasing shares of a company's stock. If the company grows and does well then your stock as a part-owner becomes more valuable.

Your task is to write a letter to persuade your parents to loan you \$500.00 so that you can invest in the stock market. Your goal is to invest your \$500.00 so that you can repay the loan to your parents and make a profit for yourself.

Remember:

- to review the data you and your classmates have collected regarding stocks.

- to make a thoughtful decision and state why you have chosen a particular stock to invest your \$500.00.

- to justify your decision using details.

- to use appropriate language and graphs to help persuade your parents.

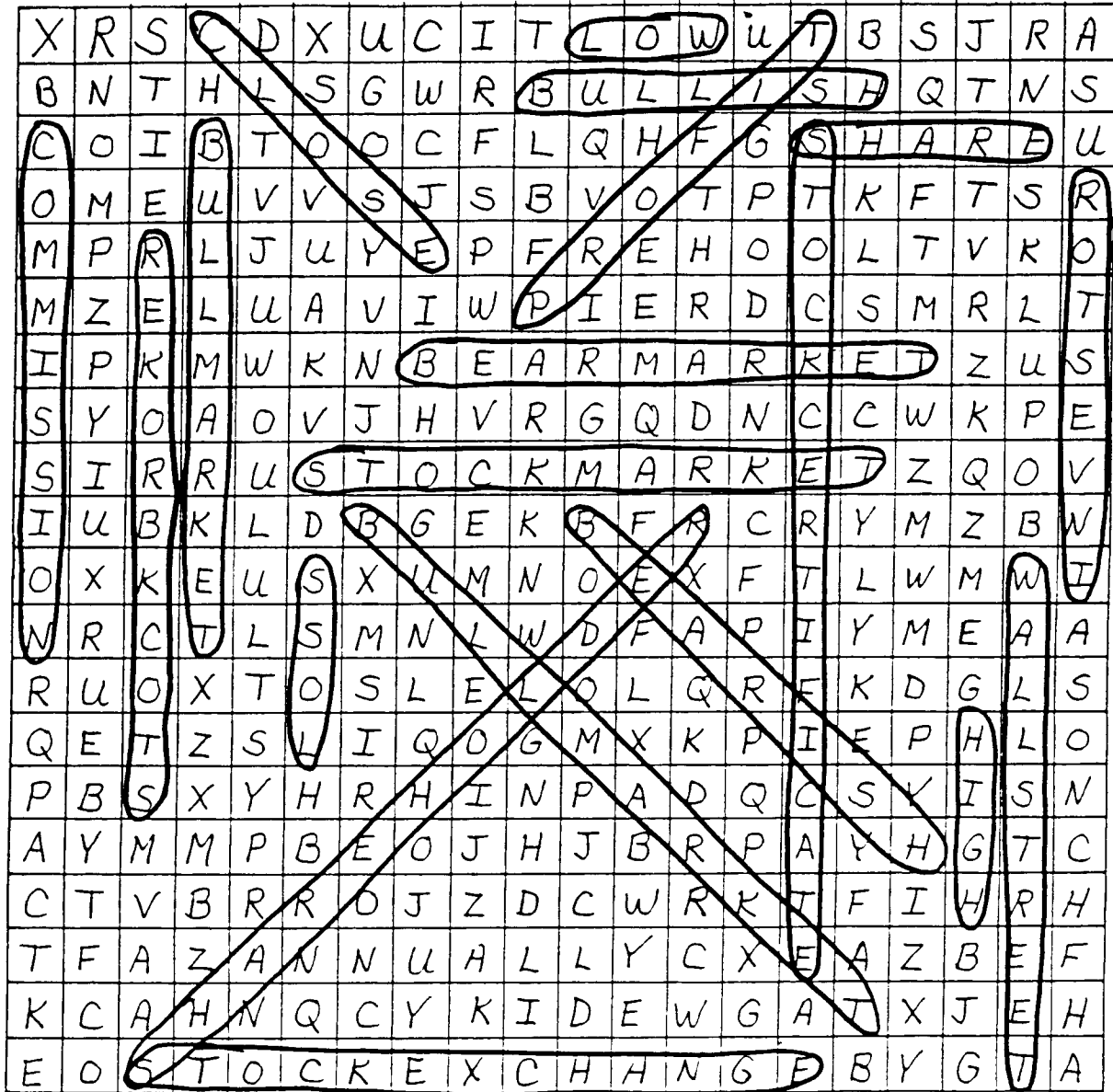
- to check all mathematical computations for correctness.

You will write your letter in friendly letter format and use graph paper to present your data to your parents.

Scoring Rubric For Performance Task

Score Point 3	Score Point 2
States position and supports with full detail Complete understanding of stock market Highly effective use of text and graphs Correct mathematical computations	States position and supports with some detail Substantial understanding of stock market Moderate use of text and graphs A few inaccurate mathematical computations
Score Point 1	Score Point 0
Either doesn't state position or doesn't support with details Partial understanding of stock market Minimal use of text and graphs Many inaccurate mathematical computations	No position stated and no supportive details Serious misconceptions of stock market Ineffective use of text and graphs Inaccurate mathematical computations

Stock Market Word Search Answer Sheet



Stock Market Word Search

